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## **Term and Conditions 3c**

- 3. In order to minimize the likelihood of incidental take associated with uncertainty and risk regarding long-term Project effects, the Corps shall implement a monitoring program with the following elements:
  - c. Through monitoring measure MA-4, the Corps shall ascertain Project related changes in habitat. Additionally, the Corps shall compare results of this monitoring action to any similar research efforts by the Northwest Fisheries Science Center's (i.e., their Columbia River estuary study) or other organizations in the estuary for a more complete assessment of habitat changes. At the end of the proposed monitoring period, monitoring results from MA-4 and associated research/monitoring shall be reviewed by the adaptive management team. The adaptive management team will determine whether additional MA-4 actions or a sub-component of MA-4 will go forward into the future.

Action Plan: The monitoring action for MA-4 is a study which is currently underway through the Anadromous Fish Evaluation Program (AFEP). The study was begun in 2001 and is scheduled to continue for 10 years. The studies purpose is to gather information on what and how juvenile salmon use Columbia River estuarian habitat and to use this information to improve juvenile salmon survival in the estuary. This study will provided a excellent baseline to assess any changes that may occur with the Channel Improvement Project. Any changes will be assessed by conducting a detailed evaluation of the data gather in the third year following project construction. The evaluation could be conducted by the contractor for the AFEP study and information presented to the larger Adaptive Management Team (AMT). The information collected during the third year will also be presented to the larger AFEP review group, though the comparison information will not be presented to this group. The adaptive management team will review the comparative information provided by the contractor and may solicit input on the comparison from regional experts. AMT will then decide whether the comparison shows an impact or not.

## **Schedule:**

Monitoring program- AFEP Started in 2001 completed in 2011. The detailed comparison may take up to 18 months after MA-4 is complete and the results will be presented at the next AMT meeting after they are complete.

Comparative analysis of pre and post project changes. 2007-2008